

Remarks

This application has been reviewed in light of the final Office Action of April 25, 2003. Claims 1-20 are pending, and all claims are rejected. In response, claims 8-9, 12, and 19-20 are amended, and the following remarks are submitted. Reconsideration of this application, as amended, is requested.

Claim 12 is amended to remove the reference to an iodide, erroneously introduced in the prior Amendment, since this claim relates only to the preferred fluoride embodiment.

Claims 9 and 20 are rejected under 35 U.S.C. §112 and are amended responsively in the suggested manner. In making this change, Applicant reviewed claims 8 and 19 and observed that they should be amended in a similar manner to refer to the providing step. Applicant asks that the Examiner enter these amendments after final rejection as being responsive to the suggestion and not requiring any further search.

Claims 1-2 and 4-11 are rejected under 35 USC 103 over Warnes '733 in view of Basta '963 and Smith '400. Applicant traverses this ground of rejection.

The following principle of law applies to all Section 103 rejections. MPEP 2143.03 provides "To establish prima facie obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. In re Royka, 490 F2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)." [emphasis added] That is, to have any expectation of rejecting the claims over a single reference or a combination of references, each limitation must be taught somewhere in the applied prior art. If limitations are not

found in any of the applied prior art, the rejection cannot stand. In this case, the applied prior art references clearly do not arguably teach some limitations of the claims.

Claim 1 recites in part:

“preparing a coating source comprising:
a solid aluminum halide,
a solid fluoride or a solid iodide of a modifying element as
a source of the modifying element, the modifying element being selected
from the group consisting of zirconium, hafnium, and yttrium, and
combinations thereof, and
a carrier gas;
producing a coating gas from the coating source, the coating gas
comprising a gaseous aluminum halide, a gaseous fluoride or a gaseous
iodide of the modifying element, and the carrier gas;”

Warnes ‘733, as understood, is a significant reference because it teaches directly away from the present approach in at least two respects.

First, it teaches that the modifying element is introduced as a chloride, specifically zirconium tetrachloride. The present Specification unequivocally states, “The chlorides and bromides of the modifying element are not within the scope of the present invention, as they are not thermodynamically and kinetically suitable.” (see page 4, lines 8-10) and “(The iodides of the modifying elements may be used in some circumstances, but the chlorides and bromides are unsuitable and may not be used.)”. (See page 7, lines 13-15)

Second, Warnes teaches that its chlorides are not produced from solid chlorides of the modifying elements, but instead by chemical reactions discussed at col. 6, lines 5-41.

The rejection may not properly be based on a reference, which teaches away from the present invention as recited in the claims.

“A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. In re Sponnoble, 160 USPQ 237, 244 (CCPA 1969)...As “a useful general rule,”...“a reference that ‘teaches away’ can not create a prima facie case of obviousness.” In re Gurley, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994).

Warnes is therefore not a proper reference and should be withdrawn.

The explanation of the rejection asserts that, “‘733 does not explicitly teach the use of a fluoride or iodide of the modifying element.” In fact, Warnes does much more than that. It teaches directly away from the invention by teaching that the chloride is fully acceptable and is used in the Warnes process.

Smith ‘400, as understood, teaches that aluminum halide may be produced by evaporation of the solid. There is no teaching regarding zirconium, hafnium, and/or yttrium, or their fluorides or iodides.

The explanation of the rejection characterizes Basta ‘963 as teaching that “...metal fluorides, including those of ... hafnium, and zirconium, may be used as CVD precursors”. No source in the reference is given for this asserted teaching. Applicant has carefully studied the reference, and can find hafnium and zirconium mentioned only at col. 9, lines 27-29. At that location, there is no mention of the fluorides of hafnium and/or zirconium, and certainly no mention of their solid forms. If the Examiner is relying on some other location in Basta ‘963, Applicant asks that it be indicated. If this is the only source in Basta ‘963, clearly there is no such teaching.

In short, in none of the references is there any teaching of one of the important limitations of all of the presently rejected claims: "a solid fluoride or a solid iodide of a modifying element as a source of the modifying element, the modifying element being selected from the group consisting of zirconium, hafnium, and yttrium, and combinations thereof".

The present rejection seeks to perform a hindsight reconstruction based upon unrelated references, which is technically unsupported and is legally improper. The case authority and the MPEP provide guidance on this point. The present rejection is a Section 103 combination rejection. It is well established that a proper Section 103 combination rejection requires more than just finding in the references the elements recited in the claim (but which was not done here). To reach a proper teaching of an article or process through a combination of references, there must be stated an objective motivation to combine the teachings of the references, not a hindsight rationalization in light of the disclosure of the specification being examined. MPEP 2143 and 2143.01. See also, for example, In re Fine, 5 USPQ2d 1596, 1598 (at headnote 1) (Fed.Cir. 1988), In re Laskowski, 10 USPQ2d 1397, 1398 (Fed.Cir. 1989), W.L. Gore & Associates v. Garlock, Inc., 220 USPQ 303, 311-313 (Fed. Cir. 1983), and Ex parte Levengood, 28 USPQ2d 1300 (Board of Appeals and Interferences, 1993); Ex parte Chicago Rawhide Manufacturing Co., 223 USPQ 351 (Board of Appeals 1984). As stated in In re Fine at 5 USPQ2d 1598:

"The PTO has the burden under Section 103 to establish a prima facie case of obviousness. [citation omitted] It can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references."

And, at 5 USPQ2d 1600:

"One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."

Following this authority, the MPEP states that the examiner must provide such an objective basis for combining the teachings of the applied prior art. In constructing such rejections, MPEP 2143.01 provides specific instructions as to what must be shown in order to extract specific teachings from the individual references:

"Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention when there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992)."

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"The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)."

* * * * *

"A statement that modifications of the prior art to meet the claimed invention would have been 'well within the ordinary skill of the art at the time the claimed invention was made' because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references. Ex parte Levengood, 28 USPQ2d 1300

(Bd.Pat.App.& Inter. 1993).”

Here, there is set forth no objective basis for combining the teachings of the references in the manner used by this rejection, and selecting the helpful portions from each reference while ignoring the unhelpful portions. An objective basis is one set forth in the art or which can be established by a declaration, not one that can be developed in light of the present disclosure. If the rejection is maintained, Applicant asks that the Examiner set forth the objective basis found in the references themselves for combining the teachings of the references.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

Claims 3 and 12-20 are rejected under 35 U.S.C. §103 over Warnes ‘733 in view of Basta ‘963 and Smith ‘400, and further in view of Basta ‘614. Applicant traverses this ground of rejection.

Claim 3 depends from claim 1, and incorporates the limitation quoted above from claim 1. Claim 12 has a similar recitation, reciting in part:

“preparing a coating source comprising:
a solid aluminum halide,
a solid fluoride of a modifying element as a source of the
modifying element, the fluoride of the modifying element being selected
from the group consisting of a zirconium fluoride and a hafnium
fluoride, and combinations thereof, and
a carrier gas;
producing a coating gas from the coating source, the coating gas
comprising a gaseous aluminum halide, a gaseous fluoride or a gaseous
iodide of the modifying element, and the carrier gas;”.

The combination of Warnes '733, Basta '963, and Smith '400 does not teach this limitation for the reasons discussed earlier. Applicant incorporates by reference the earlier discussion of the rejection of claim 1 and its dependent claims. Basta '614 adds nothing in this regard.

Basta '614, as understood, is applied for its teaching of the use of platinum to make platinum aluminide coatings. Applicant does not dispute the fact that platinum aluminide coatings are known in the art. Basta '614 does not, however, remedy the absence of teachings in the other three references.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

Claims 1, 3, 5-7, 9, 11-12, 15, 17-18 and 20 are rejected under 35 U.S.C. §103 over Chang '642, Speirs '806, and Bornstein '023. Applicant traverses this ground of rejection.

Chang '642, as understood, teaches an entirely different type of coating process. Instead of using a solid aluminum halide as claimed, it uses solid metal powder coated onto the surface of the article (Chang claim 1, Examples in col. 4). Accordingly, there is no teaching of the limitation of claim 1:

“producing a coating gas from the coating source, the coating gas comprising a gaseous aluminum halide, a gaseous fluoride or a gaseous iodide of the modifying element, and the carrier gas”

A similar limitation is in claim 12.

The explanation of the rejection asserts that Speirs “ ‘806 teaches the equivalence of ammonium halide and aluminum halides as energizers...(col. 3, lines 47-

Attorney Docket No. 13DV-13658 (21635-0026)
Serial No. 09/670,189

63)”. Applicant is not sure how the Examiner reads Speirs as having such a teaching. The referenced portion says no such thing, and in fact these families of halides are not equivalents as energizers at all. Members of the two families of halides may be mixed together, but they are not equivalents.


The explanation of the rejection says that the ‘642 is silent as to atmosphere, but it isn’t. See, for example, col. 4, line 41. The hydrogen is not a carrier gas in this process, as the process of Chang is not a vapor transport process at all.

No objective basis is set forth in the rejection or in the references for combining the teachings of the references. If the rejection is maintained, Applicant asks that the Examiner provide such a basis.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

Applicant submits that the application is in condition for allowance, and requests such allowance.

Respectfully submitted,
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